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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,502	06/22/2006	Pierre Demaj	FR030161US1	4581
25235 7590 04/14/2009 HOGAN & HARTSON LLP ONE TABOR CENTER, SUITE 1500 1200 SEVENTEENTH ST DENVER, CO 80202				
EXAMINER				
CHASE, SHELLY A				
ART UNIT		PAPER NUMBER		
2112				
NOTIFICATION DATE		DELIVERY MODE		
04/14/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentcolorado@hhlaw.com

### Office Action Summary

**Application No.**

10/584,502

**Applicant(s)**

DEMAJ ET AL.

**Examiner**

Shelly A. Chase

**Art Unit**

2112

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 6-22-2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 4 is/are rejected.
- 7) ☒ Claim(s) 2, 3, 5 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- \_\_\_\_\_ Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- \_\_\_\_\_ Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Claims 1 to 6 are presented for examination. Acknowledgement is made of the preliminary amendment filed 6-22-2006.

***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119, which papers have been placed of record in the file.

***Claim Objections***

3. Claims 2 and 5 are objected to because of the following informalities: please change the phrase " the Hadamard decoding matrix" to ---- a Hadamard decoding matrix---.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

4. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tan (USP 6956891 B2) in view of Feldman et al. (USP 7353170 B2).

Claims 1 and 4:

**Tan** substantially teaches the claimed invention. Tan teaches a method and an apparatus for code division multiple access (CDMA) communications technology that enhances the performance of CDMA through the use of non-linear block codes, the apparatus comprising: a base station (300) or a mobile communications unit (310) (see fig 3) receiving signals from an antenna (340) and encoding and decoding the received signals (see col. 6, lines 14 to 21). Tan also teaches that the received signals are

coded according to Hadamard matrix using majority voting coding process thereby outputting a ternary vector for decoding (see col. 9, line 22 to col. 10, line 30). Tan teaches that the decoding process reverses the encoding process of the received signal and outputs the original signal (see col. 14, lines 40 et seq.).

Tan does not specifically teach that the decoding process uses iterative calculation of a hard decision vector; however, Feldman in an analogous art teaches that a noise adaptive decoding method and apparatus determines hard estimates based on certain threshold using majority logic decoders (see col. 3, lines 9 et seq.). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the majority logic decoding process of Tan to include computing hard estimates according to a threshold as taught by Feldman since, Feldman teaches that adapting to noise faster is better error rate when using a decoder that computes hard decisions according to a parameter. This modification would have been obvious because a person of ordinary skill in the art would have been motivated to employ a decoder that is easily adaptive to noise for yielding better error rate as taught by Feldman.

***Allowable Subject Matter***

5. Claims 2 to 3 and 5 to 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shelly A. Chase whose telephone number is 571-272-3816. The examiner can normally be reached on Mon-Fri from 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques can be reached on 571-272-6962. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shelly A Chase/  
Primary Examiner, Art Unit 2112